4694

Alaska S. W. 1 C

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: S. W. Alaska

11—M13

DESCRIPTIVE REPORT.

C

Hydrographic *Sheet No.* 4694

LOCALITY:

Prince William Sound

Squirrel Bay

North and South Twin Bay

Off Cape Puget

1927

CHIEF OF PARTY:

R. R. Lukens

4694

Note by Chief of Party.

This sheet was laid out to fill in blanks in the existing hydrography in this vicinity. The topography of Squirrel, North and South Twin Bays had been done on a 1:40,000 scale, but the hydrography had not been executed.

SQUIRREL BAY. On the south side of this bay, between △ Island and ⊙ Rex, there is a patch of thick kelp as shown on the sheet. This growth is over a rocky reef which was sounded over carefully by the hydrographic party.
There is deep water close up all around the rocky islet on which △ Island is established.

The bottom in Squirrel Bay is generally hard and rocky with scattering patches of sand and gravel except near the head of the bay where there is black sand. The head of the bay is much used as an anchorage for fishing boats during the herring season

PROCESSION ROCKS are a group of prominent jagged rocks near the entrance to Port Bainbridge, the highest one being about 70 feet high. There are 4 principal rocks in the group.

TIDE GAUGE The automatic tide gauge at Seward was used for reducing soundings on this sheet. Although Seward is some distance away there is but little difference in the time and heights of the tide. The area is one of deep water and there are no critical depths.

NORTH and SOUTH TWIN BAYS afford convenient temporary anchorages. The holding ground is only fair and they are open to the westward. Considerable swell rolls in. Small craft can obtain good shelter at the head of South TwinnBay.

R. P. Lanham

DESCRIPTIVE REPORT
to

Accompany Hydrographic Sheet No. C

Steamer SURVEYOR - - - - - - R. R. Lukens, Chief Of Party.

Work executed under instructions dated February 3rd, 1927.

General Description:- This hydrographic sheet consists of a group of inshore and bay developments at the entrances to Port Bainbridge, Prince of Wales Passage and Elrington Passage, which were needed to complete the previous surveys of that locality.

No previous surveys were made around Cape Puget, but this development from Pug to Puget ties in the two sheets of Port Bainbridge and Puget Bay which were surveyed this season.

Squirrel, North Twin and South Twin Bays, had only a few reconnaissance lines run into them. So these were thoroughly developed on a scale of 1:10,000, but as no dangers were found, smooth plotted on a 1:20,000 scale.

All sounding lines were run normal to the general trend of the shore line, wherever possible.

Inshore Dangers and Islands:- Those around Cape Puget, △ Pug, and Procession Rocks are discussed in the Topographic Descriptive Report of this season.

The three islands 350 (1350?) meters W true of ⊙ Slide are not shown on the photostat as islands, but as a point making out. The locations of these islands are estimated distances from Hydrographic positions which were taken on triangulation stations.

A rock awash, 350 meters, N of E (true) of ⊙ Slide and 60 meters from shore was located by hydrography. ✓

A rock awash at low tide, 300 meters NE (true) of ⊙ See, and 250 meters off-shore, was cut in by plane table. (N. Twin Bay) ✓ ✓

An Island, △ Nob, lies 50 meters off-shore and 1670 meters N of E (true) of Elrington Light, in South Twin Bay. ✓ ✓

A rock [redacted] in North Twin Bay, 75 meters SW (true) of ⊙ Shot and 60 meters off-shore, bares 10 feet at H. W. ✓

Two rocks in North Twin Bay, 230 meters NE (true) of ⊙ Son, and about 50 meters off-shore, bare at High Water. ✓

Currents and Tides:- The currents in the area covered by this sheet are purely tidal. On a flood tide, the flow is northward; on an ebb tide, southward. No current observations were taken, so the strength of flow was not determined.

Quite strong eddies were noted to exist around △ Island, while running sounding lines in that locality.

Anchorages:- Squirrel Bay, North and South Twin Bays are not especially good anchorages as they are exposed to the ocean swell, but offer good protection to all E'ly breezes and swells.

The SURVEYOR used these anchorages often, while working in this vicinity. She anchored in South Twin Bay near position 83 c, in 15 to 17 fathoms of water, sandy bottom, excellent holding ground. She anchored in Squirrel Bay near position 194 b, in 14 to 15 fathoms of water, rocky bottom, excellent holding ground. Squirrel Bay is a much better anchorage than South Twin Bay, as it is not quite so exposed to the ocean.

North Twin Bay was never used as an anchorage this season, as South Twin Bay is a much better anchorage.

Changes in Coast Line:- The coast line from △ Pug to Cape Puget and from Point Pyke to Procession Rocks was run this year. The ~~the~~ topography, inshore from Procession Rocks, made a satisfactory junction with the previous survey, but the hydrography done along that coast brought out numerous errors. The three islands between positions 85 d and 86 d were shown as a point making out. A great many of these positions inshore plotted on the shore. This stretch of shoreline was therefore left in pencil as sketched by the Hydrographic Party.

The shore line of Squirrel Bay and South and North Twin Bays were dotted in or sketched by the hydrographic party, as it was impracticable to transfer the shore line from a 1:40,000 sheet to a 1:20,000 sheet.

Survey Methods:- The sounding was done with Motorsailer # 2967 with a sounding machine geared to the engine. Hand lead was used on the inshore end of the line and in the head of bays, to develop the shoal areas. The lines were run normal to the general trend of the shore line wherever possible.

Control:-- Squirrel Bay, North and South Twin Bays were surveyed early in the season before triangulation was established.

Plane table triangulation, scale 1:10,000, was run. Later, in each bay, one signal was located by triangulation. From these signals, theodolite cuts were taken to all the visible signals in the bays. The plane table triangulation was then reduced to a scale of 1:20,000 and swung in on the smooth sheet by means of the triangulation stations and azimuths to the signals in the bays.

The hydrography in the bays was done on a scale of 1:10,000 but as no dangers were found, was smooth plotted on a scale of 1:20,000.

New Place Names:- (1) No well established names, locally.

(2) Names assigned by field officers:

Squirrel Bay, named this as the chart of that locality resembles a squirrel sitting in an upright position.

North and South Twin Bays, named this as these two bays are only seperated by a narrow stretch of land, and the general trend of the shore line resembles one another very closely.

Approved R.R. Lukens.

Respectfully submitted,
Walter J. Chovan
Asst. C & G. Survey.

STATISTICS FOR HYDROGRAPHIC SHEET NO. 6

Date	Day	Vol.	Positions	Soundings	Miles sta.	Launch	Remarks
May 11	a	1	76	75	8.0	M.S. 2967	
12	b	1	194	286	11.3	"	
13	c	1	35	75	1.7	"	
18	d	2	143	373	20.7	"	
20	e	2	83	239	13.6	"	
28	f	3	74	216	11.0	"	
July 25	g	3	68	174	19.9	"	
26	h	3	63	121	19.2	"	
27	j	3	66	125	18.1	"	
TOTALS			802	1684	123.5	AREA 14.7 sq. miles	

Soundings in fathoms
Plane of reference M L L W
Plane of reference, reading on gauge, 2.5 ft. T. S. at Seward.

F.H.H.

Copy for Records Section. January 4, 1928.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4694

Locality: PRINCE WILLIAM SOUND, ALASKA.

Chief of Party: R. H. Lukens, 1927.
Plane of reference is M L L W
2.4 ft. on tide staff at Seward.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

Chief, Division of Tides and Currents.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 3-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON February 20, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4694

Squirrel Bay, North and South Twin Bays, Off Cape Puget, S. W. Alaska

Surveyed in 1927.

Instructions dated February 3, 1927.

Chief of Party, R. R. Lukens.

Surveyed by R. R. L.

Protracted and soundings plotted by W. J. Chovan.

Verified and inked by J. T. Jarman.

1. The records conform to the requirements of the General Instructions.

2. The plan and character of development fulfill the requirements of the General Instructions.

3. There are very few sounding line crossings and those that occur are good with the exception of the one noted below. Even then, the discrepancy is only one fathom.

Location of crossing: Lat. 59° 57' 1750 meters
Long.148° 12' 360 meters

4. The usual depth curves can be completely drawn.

5. The field plotting was completed to the extent prescribed in the General Instructions except for the discrepancies noted below:

a. Depth curves for the work off Cape Puget were not included.

b. The office draftsman found and corrected a number of errors in converting feet to fathoms.

c. Generally, the time interval was regular but in cases to the contrary, the field draftsman failed to space the soundings correctly. These errors the office draftsman noted and corrected.

Statistics on the sheet follow:

No. positions 802
" " checked 203
" " wrong 14
" soundings 1684
Time interval - generally regular
Character of work - open

6. The junction with H. 4693 is good. The junction with H. 4692 on the north can not be determined until the latter has been completed.

Remarks:

A rock (see Vol. 2, page 34, "d" day) was not plotted on the boat sheet as recorded in the record. As some doubt seems to exist as to the exact location of the rock, it was plotted in pencil on the smooth sheet and left for further investigation by the reviewer.
The penciled revision of the topography, inshore from Procession Rocks was accepted by the office and inked on the smooth sheet. (See Descriptive Report under "Changes in Coast Line.")

Report by J. T. Jarman - Jan. 18, 1928

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

March 1, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4694

Squirrel Bay, North and South Twin Bays, Off Cape Puget, Prince William Sound, Southeast Alaska

Chief of Party, R. R. Lukens.

Surveyed by R. R. Lukens, S. B. Grenell.

Plotted and soundings in pencil, W. J. Chovan.

Verified and inked by J. T. Jarman.

Reviewed by E. R. McCarthy.

1. Specific instructions for the work were carried out.

2. The development is adequate.

3. Depth curves may be drawn with the exception of the one and two fathom curves.

4. Junctions with sheets H. 4692 and H. 4693 to the north and west are good. The sheets to the south and east have not yet been plotted.

5. Few errors were found. The rock mentioned in the draftsman's report was plotted according to notes in the records. The depth curves were changed near Procession Rocks and also near the rock awash in North Twin Bay north of ⊙ Sec.

6. A sounding of 13 fathoms inside the 10 fathom curve about 40 meters north of ⚓ Blank was brought to the attention of the Chief of the Section.

7. Drafting and inking - good.

8. Reviewed by E. R. McCarthy, February 27, 1928.

Approved:

Chief, Section of Field Records (Charts)

Chief, Section of Field Work (H. & T.)

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4694

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. C

REGISTER NO. 4694

State S. W. Alaska

General locality Prince William Sound

Locality Squirrel Bay, North & South Twin Bays, Off Cape Puget

Scale 1:20,000 Date of survey May and July, 1927

Vessel Str. SURVEYOR

Chief of Party R. R. Lukens

Surveyed by R. R. Lukens

Protracted by W. J. Chovan

Soundings penciled by

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated February 3rd, 1927

Remarks:

GPO